UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,837	08/22/2005	Robin R. Gibson	121629-05014555	1922

20583 7590 03/05/2009

JONES DAY
222 EAST 41ST ST
NEW YORK, NY 10017

EXAMINER	
TAYLOR II, JAMES W	
ART UNIT	PAPER NUMBER
1796	
MAIL DATE	DELIVERY MODE
03/05/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,837	GIBSON ET AL.	
	Examiner	Art Unit	
	James W. Taylor II	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-25 and 27-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-25 and 27-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. All outstanding rejections and objections except for those explicitly maintained below are withdrawn in light of applicant's amendment filed on 1/23/2009.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 103

3. Claims 15-25 and 27-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takase *et alli* (US 6,281,278) in view of Lepilleur *et alli* (US 6,306,945) in view of Spiller *et alli* (US 3,676,171).

4. Takase teaches a modified thermoplastic resin composition (ti.). The composition comprises a thermoplastic matrix and at least one modifier (c. 4, l. 64 to c. 5, l. 3). The thermoplastic matrix can be, *inter alia*, poly(vinyl chloride) ("PVC") (c. 5, ll. 58-65). The modifiers can be, *inter alia*, titanium oxide, zeolite, and methyl methacrylate ("PMMA") crosslinked copolymers (c. 6, ll. 17-36). It is noted that the present claim 1 claims "an organic resin which is a thermosetting resin ... wherein said organic resin is an epoxy resin, a polyester resin, a hybrid epoxy-polyester resin, a urethane resin or an acrylic resin" (emphasis added). The component from Takase that meets this limitation is the methyl methacrylate crosslinked copolymer, not the thermoplastic PVC matrix, as a crosslinked PMMA copolymer is clearly thermosetting (i.e., because it is crosslinked) and methyl methacrylate is an acrylic acid derivative.

5. Takase fails to teach (i) "wherein said zeolite contains less than 9 percent water by weight as determined by heating at 800 °C for 1 hour" or (ii) "particulate form".

6. Regarding deficient limitation (i), Lepilleur teaches a halogen containing polymer compound containing modified zeolite stabilizers (ti.). The reference goes on to explain what constitutes a modified zeolite: "These aluminosilicate zeolites are then modified. The modified aluminosilicate zeolite has a water content of less than 10 weight percent" (c. 6, ll. 58-60). Further, the reference teaches the reason to use low water content zeolite over "standard" zeolite is because "to prevent the aluminosilicate zeolite particles from absorbing water but still allowing the zeolite particles to react with the acid released upon the deterioration or degradation of the halogen containing polymer" (c. 6, l. 65 to c. 7, l. 2) which ultimately enhances PVC's thermal stability (c. 1, ll. 37-39). Thus, one of ordinary skill in the art would have recognized that Takase PVC composition could be modified by used Lepilleur's zeolite as a modifier to enhance the heat stability of the composition.

7. Regarding deficient limitation (ii), Spiller teaches a method of enabling the use of PVC powder coatings (ab.; clm. 1). Powder coatings are advantageous in that they have a longer shelf life than solventborne coatings as solvated molecules degrade faster than solid state molecules, in that they are cheaper to transport (i.e., not transporting solvent as well), and in that they require less storage space (i.e., not storing solvents as well). Thus, one of ordinary skill in the art would have motivation to use powder coatings as opposed to a waterborne coating, and it would have therefore been obvious to one of ordinary skill in the art at the time of the invention to use a powder

coating form of Takase's PVC formulation or Takase in view of Lepilleur's formulation in order to benefit from the aforementioned advantages.

8. Regarding claims 16 and 28, Lepilleur teaches that the most preferred zeolite is zeolite 4A (c. 6, ll. 13-14).

9. Regarding claims 17-18 and 29-30, as noted above, Lepilleur teaches that the zeolite has a water content of less than 10 weight percent, and thus there is an overlap between the prior art's and claimed ranges. The claimed range would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that claiming an over lapping portion of the range taught in the prior is a *prima facie* case of obviousness. See *In re Malagari,* 182 USPQ 549 and MPEP 2144.05 (I).

10. Regarding claims 19 and 31, Lepilleur teaches that the zeolite has a mean in the range of 0.25 to 1.5 microns (c. 5, ll. 31-32). It is noted that Lepilleur teaches the mean (i.e., number-average particle size) whereas the instant claims claim in terms of the weight-average particle size. Lepilleur explains the desire to use a narrow particle size distribution (c. 5, l. 29). As monodispersity goes to one (i.e., so-called monodisperse), the difference between the weight-average particle size and the number-average particle size approaches zero. Thus, one of ordinary skill in the art would expect, assuming the zeolite had a monodisperse particle size as desired, the number-average particle size would be roughly equivalent to the weight-average particle size. Thus, there is an overlap in the prior art's and claimed ranges. The claimed range would have been obvious to one having ordinary skill in the art at the time the invention was made,

since it has been held that claiming an over lapping portion of the range taught in the prior is a *prima facie* case of obviousness. See *In re Malagari*, 182 USPQ 549 and MPEP 2144.05 (I).

11. Regarding claims 20, 22, 32, and 34, the examiner gives official notice that titanium dioxide is a white pigment and an opaquifier. The amount of titanium dioxide in a composition at least partially directly controls the tint, brightness, and the opaqueness of a composition, and as such the loading of titanium dioxide is a result effective variable. Optimization of result effective variables through routine experimentation is not a patentable distinction. See *In re Beosch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP 2144.05 (II) (B).

12. Regarding claims 21, 23, 33, and 35, Lepilleur teaches that the most preferred loading of the modified zeolite is 0.4 to 7 weight percent, relative to the thermoplastic matrix (i.e., PVC) (c. 8, ll. 19-20).

13. Regarding claims 24-25 and 36-39, Spiller teaches that the average particle size for his PVC is 75-100 microns (c. 4, ll. 74-75). Although this is taught as an example, given that the rest of the reference is silent with respect to the particle size of the composition, one of ordinary skill in the art would have naturally turned to the examples to select a particle size. The examiner acquiesces that the average particle size will not necessarily be the same or even similar upon the addition of the other components of the composition. Nonetheless, the Federal Court of Appeals has consistently held that changes in size, without a critical function being attributed to said sizes, is not a patentable distinction over the prior art. See *In re Rose*, 220 F.2d 459, 105 USPQ 237

(CCPA 1955) and In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984).

14. Regarding claim 38, it is noted that the although the applicant has amended the preamble of the claim to read "opacifying a powder coating," the only active steps are still mixing. As such, it would have been obvious for one of ordinary skill in the art at the time of the invention to mix the composition during production to better disperse particles therein. Opacifying would thus innately be the result of said mixing.

Response to Arguments

15. Applicant's arguments with respect to claims 15-26 and 28-39 have been considered but are unpersuasive. Specifically, the applicant argues that the PVC has been removed from the list of polymers that are required by the impendent claim. However, the examiner notes that the claims do not require that the polymers necessitated are a continuous phase or matrix, and thus, the examiner has taken the position that if one of these particles are in the composition as a discrete phase, it would meet the claimed limitation. As noted above, Takase teaches a PVC composition wherein a crosslinked PMMA copolymer is dispersed therein. As such, the limitation regarding the exact polymer is met, and thus the rejection above is made.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Taylor II whose telephone number is

(571) 270-5457. The examiner can normally be reached on 7:30 am to 5:00 pm (off every other Friday).

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James W Taylor II/
Examiner, Art Unit 1796

jwt2

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796